M/019/005

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State of Utah
DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

Norman H. Bangerter
Governor
Suzanne Dandoy, M.D., M.P.H.
Executive Director
Kenneth L. Alkema
Director

288 North 1460 West
P.O. Box 16690
Salt Lake City, Utah 84116-0690
(801) 538-6121

RECEIVED
JUL 27 1989
DIVISION OF
OIL, GAS & MINING

July 25, 1989

Mr. Rick York, General Manager
Moab Salt, Inc.
P.O. Box 1208
Moab, Utah 84532

Re: Meeting of June 7, 1989, and Moab Salt summary dated June 16, 1989.

Dear Mr. York:

We appreciate receipt of your meeting summary referenced above. From our notes we feel there are some other items discussed in our June 7, 1989 meeting that would be helpful in your preparation of the study plan to be submitted by August 7th:

1. Regulations and Policy - applicable to Moab Salt include:

   a) Utah Water Pollution Control Act (Utah Code Annotated 26-11)
   b) Utah Wastewater Disposal Regulations (Utah Admin. Code[UAC] R448-1)
   c) Utah Pollutant Discharge Elimination System (UAC R448-8)
   d) Colorado River Salinity Forum Policy on Intercepted Groundwater

2. Permits for Wastewater Facilities and Discharges - from review of our files we were unable to locate Construction Permits or any other approval for the following facilities:

   a) Evaporation Ponds - observation shows those ponds leak and hence discharge a wastewater.

   b) Nos. 1 and 3 Canyon Collection Systems - constructed by the company to collect evaporation pond leakage. It has been observed that the No. 3 Canyon Collection system is less than effective, resulting in a subsurface discharge of brine to the Colorado River.

   d) Brine Lake - constructed to contain waste NaCl brines. The unlined nature and fractured foundation of this impoundment make it a likely source of brine discharge to the Colorado River.

   e) Tailings Dam Catch Pond - constructed to capture brine lake seepage.

   f) Plant Site - salt and potash lost to site soils could potentially be mobilized as contaminated storm water runoff and leachates to ground water.

3. Applicable Discharge Limits

   a) Surface Water Discharge to the Colorado River - Discharge of contaminated stormwater from mine sites is regulated under the UPDES program. Contamination is defined as total dissolved solids concentrations above natural background conditions. Consequently, your baseline surface water runoff quality studies should be conducted on local undisturbed drainages in order to determine background water quality levels. We discussed the difficulty the ephemeral drainage and arid conditions of your site pose, and the resulting necessity for long-term studies.

   b) Combined Surface and Subsurface Discharge to the Colorado River - The Colorado River Salinity Forum guideline for discharges of salt (total dissolved solids) to the river is no discharge, where practical. However, the Executive Secretary may allow as much as a 1 ton/day discharge to the river on a case-by-case basis. This salt discharge rate of 1 ton/day would be applied to your entire mining facility, not to each individual impoundment or system.

4. Water Balance

   We reaffirmed our desire to examine a water balance for your facility. This water balance could be broken down by individual systems: 1) evaporation ponds and nos. 1 and 3 Canyon Collection Systems, 2) Salt Storage Area, Brine Lake, and Tailing Dam Catch Pond. We acknowledge your concern over the errors of measurement. However, we believe it to be a good first step in assessing the amount of salt lost from your facility to the Colorado River. Another option we shared with you would include intensive geophysical and hydrogeological studies to actually locate, measure and monitor the volumes and quality of seepage lost from the above mentioned impoundments and systems.

5. Potential Solutions

   We briefly discussed several solutions. You mentioned relining of the evaporation ponds which would need to be done in phases due to its cost impact. You also mentioned the construction of a ground water (brine) recovery well field for the No. 3 Canyon Collection System in concert with a new dike to control evaporation pond seepage and storm water runoff. These may be viable solutions. Ground water recovery may also be applicable elsewhere at the evaporation ponds, the salt storage area, and around the brine lake.

   One point that we would like to reconvey is that we are willing to consider all reasonable options when attempting to arrive at a solution. After defining the pollution problem we anticipate that you will also identify all such feasible solutions and their attendant benefits and costs.

We discussed a course of action for the future, and you agreed to provide the following by August 7, 1989:

1. A conceptual plan regarding the areas, impoundments, or facilities to be studied and the type of studies to be conducted to define the extent of salt releases mentioned above. We anticipate this will at least include:

   a) Surface water quality studies of undisturbed ephemeral drainages to determine baseline conditions.

   b) Surface water quality studies of ephemeral drainages impacted by mining.

   c) Water balance studies for the surface impoundments, i.e., the evaporation ponds (including Nos. 1 and 3 Canyon Collection systems) and the salt storage - brine lake areas (including the tailings dam catch pond).

   d) Other technical studies to determine the fate of brine seepage from surface impoundments, i.e., the evaporation ponds, salt storage area, and brine lake. This may include geophysical, hydrogeological or other methods.

   We further suggest that these studies be designed to satisfy all the issues and concerns raised in our letter of February 28, 1989.

2. A suggested priority and a proposed timetable for completion of the studies to be conducted. The timetable may include milestones for the development of detailed study plans where necessary.

We look forward to the submittal of your conceptual plan and your continued cooperation. If you have any questions please call Steve McNeal or Loren Morton at 538-6146.

Sincerely,

Fredrick C. Pehrson, P.E., Manager
Compliance and Monitoring Program
Bureau of Water Pollution Control

cc: Dave Arriotti, SE Dist. Health Dept.
Jack Barnett, Colorado River Salinity Forum
Holland Shepard, DOGM

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